



## SEQUENCE LISTING

&lt;110&gt; Kopin, Alan S.

<120> Assays for Identifying Receptors Having  
Alterations in Signaling

&lt;130&gt; 00398/512002

&lt;140&gt; US 09/966,871

&lt;141&gt; 2001-09-28

&lt;150&gt; US 60/236,302

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&lt;150&gt; US 60/288,644

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&lt;160&gt; 87

&lt;170&gt; FastSEQ for Windows Version 4.0

&lt;210&gt; 1

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 1

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Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	Cys	Thr
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Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	Ala	Leu
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Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Val	Asn	Val	Cys	Asn	Trp
		180						185					190		
Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met	Phe	Met	Ala	Thr	Thr
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Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser	His	Pro
	210					215					220				
Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	Phe	Ala

225                      230                      235                      240  
 Phe Ile Met Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile  
                                  245                      250                      255  
 Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp  
                                  260                      265                      270  
 Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val Ala Val  
                                  275                      280                      285  
 Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala  
                                  290                      295                      300  
 Leu Ile Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe  
 305                                   310                      315                      320  
 Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr  
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 Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile  
                                  340                      345                      350  
 Pro Thr Ser Ser Thr Ile Glu Gln Gln Asn Ser Thr Arg Val Arg Gln  
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 Asn Thr Arg Glu His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn  
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 Val Leu Val Ser Thr  
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                     20  
  
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 35 40 45  
 His Ile Ser Pro Ala Asp Pro Val Glu Ile Thr Ala Val Tyr Ser Val  
 50 55 60  
 Val Phe Val Val Gly Leu Val Gly Asn Ser Leu Val Met Phe Val Ile  
 65 70 75 80  
 Ile Arg Tyr Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn  
 85 90 95  
 Leu Ala Leu Ala Asp Ala Leu Val Thr Thr Thr Met Pro Phe Gln Ser  
 100 105 110  
 Thr Val Tyr Leu Met Asn Ser Trp Pro Phe Gly Asp Val Leu Cys Lys  
 115 120 125  
 Ile Val Ile Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr  
 130 135 140  
 Leu Thr Met Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val  
 145 150 155 160  
 Lys Ala Leu Asp Phe Arg Thr Pro Leu Lys Ala Lys Ile Ile Asn Ile  
 165 170 175  
 Cys Ile Trp Leu Leu Ser Ser Ser Val Gly Ile Ser Ala Ile Val Leu  
 180 185 190  
 Gly Gly Thr Lys Val Arg Glu Asp Val Asp Val Ile Glu Cys Ser Leu  
 195 200 205  
 Gln Phe Pro Asp Asp Asp Tyr Ser Trp Trp Asp Leu Phe Met Lys Ile  
 210 215 220  
 Cys Val Phe Ile Phe Ala Phe Val Ile Pro Val Leu Ile Ile Ile Val  
 225 230 235 240  
 Cys Tyr Thr Leu Met Ile Leu Arg Leu Lys Ser Val Arg Leu Leu Ser  
 245 250 255  
 Gly Ser Arg Glu Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Leu Val  
 260 265 270  
 Leu Val Val Val Ala Val Phe Val Val Cys Trp Thr Pro Ile His Ile  
 275 280 285  
 Phe Ile Leu Val Glu Ala Leu Gly Ser Thr Ser His Ser Thr Ala Ala  
 290 295 300  
 Leu Ser Ser Tyr Tyr Phe Cys Ile Ala Leu Gly Tyr Thr Asn Ser Ser  
 305 310 315 320  
 Leu Asn Pro Ile Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys  
 325 330 335

Phe	Arg	Asp	Phe	Cys	Phe	Pro	Leu	Lys	Met	Arg	Met	Glu	Arg	Gln	Ser
			340					345					350		
Thr	Ser	Arg	Val	Arg	Asn	Thr	Val	Gln	Asp	Pro	Ala	Tyr	Leu	Arg	Asp
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Ile	Asp	Gly	Met	Asn	Lys	Pro	Val								
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Trp	Ala	Glu	Ser	Asp	Ser	Asn	Gly	Ser	Val	Gly	Ser	Glu	Asp	Gln	Gln
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Leu	Glu	Pro	Ala	His	Ile	Ser	Pro	Ala	Ile	Pro	Val	Ile	Ile	Thr	Ala
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Val	Tyr	Ser	Val	Val	Phe	Val	Val	Gly	Leu	Val	Gly	Asn	Ser	Leu	Val
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Met	Phe	Val	Ile	Ile	Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile
				85					90					95	
Tyr	Ile	Phe	Asn	Leu	Ala	Leu	Ala	Asp	Ala	Leu	Val	Thr	Thr	Thr	Met
			100					105					110		
Pro	Phe	Gln	Ser	Ala	Val	Tyr	Leu	Met	Asn	Ser	Trp	Pro	Phe	Gly	Asp
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Val	Leu	Cys	Lys	Ile	Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr
	130					135					140				
Ser	Ile	Phe	Thr	Leu	Thr	Met	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val
145					150					155					160
Cys	His	Pro	Val	Lys	Ala	Leu	Asp	Phe	Arg	Thr	Pro	Leu	Lys	Ala	Lys
				165					170					175	
Ile	Ile	Asn	Ile	Cys	Ile	Trp	Ile	Leu	Ala	Ser	Ser	Val	Gly	Ile	Ser
		180						185					190		
Ala	Ile	Val	Leu	Gly	Gly	Thr	Lys	Val	Arg	Glu	Asp	Val	Asp	Val	Ile
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Glu	Cys	Ser	Leu	Gln	Phe	Pro	Asp	Asp	Glu	Tyr	Ser	Trp	Trp	Asp	Leu
	210					215					220				
Phe	Met	Lys	Ile	Cys	Val	Phe	Val	Phe	Ala	Phe	Val	Ile	Pro	Val	Leu
225					230					235					240
Ile	Ile	Ile	Val	Cys	Tyr	Thr	Leu	Met	Ile	Leu	Arg	Leu	Lys	Ser	Val
				245					250					255	
Arg	Leu	Leu	Ser	Gly	Ser	Arg	Glu	Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile
			260					265					270		
Thr	Lys	Ile	Val	Leu	Val	Val	Val	Ala	Val	Phe	Ile	Ile	Cys	Trp	Thr
		275					280						285		
Pro	Ile	His	Ile	Phe	Ile	Leu	Val	Glu	Ala	Leu	Gly	Ser	Thr	Ser	His
	290					295					300				
Ser	Thr	Ala	Val	Leu	Ser	Tyr	Tyr	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	
305					310					315					320
Thr	Asn	Ser	Ser	Leu	Asn	Pro	Val	Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn
				325					330					335	
Phe	Lys	Arg	Cys	Phe	Arg	Asp	Phe	Cys	Phe	Pro	Ile	Lys	Met	Arg	Met
			340					345					350		
Glu	Arg	Gln	Ser	Thr	Asn	Arg	Val	Arg	Asn	Thr	Val	Gln	Asp	Pro	Ala



		355					360					365
Ser	Met	Arg	Asp	Val	Gly	Gly	Met	Asn	Lys	Pro	Val	
	370					375					380	

<210> 78  
 <211> 400  
 <212> PRT  
 <213> Homo sapiens

<400> 78

Met	Asp	Ser	Ser	Ala	Ala	Pro	Thr	Asn	Ala	Ser	Asn	Cys	Thr	Asp	Ala
1				5					10					15	
Leu	Ala	Tyr	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Gly	Ser	Trp	Val
			20					25					30		
Asn	Leu	Ser	His	Leu	Asp	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro	Asn
		35					40					45			
Arg	Thr	Asp	Leu	Gly	Gly	Arg	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly	Ser
	50					55					60				
Pro	Ser	Met	Ile	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val
65					70					75					80
Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val
				85					90					95	
Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu
			100					105					110		
Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val
		115					120					125			
Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile
	130					135					140				
Val	Ile	Ser	Ile	Asp	Tyr	Trp	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu
145				150						155					160
Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys
			165						170					175	
Ala	Leu	Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Ile	Asn	Val	Cys
			180					185					190		
Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Ile	Pro	Val	Met	Phe	Met	Ala
	195					200						205			
Thr	Thr	Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser
	210				215						220				
His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Asp	Lys	Ile	Cys	Val	Phe	Ile
225				230						235					240
Phe	Ala	Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu
			245						250					255	
Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu
		260						265				270			
Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val
	275						280					285			
Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile
	290					295					300				
Lys	Ala	Leu	Val	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp
305					310					315					320
His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val
			325						330					335	
Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe
		340						345					350		
Cys	Ile	Pro	Thr	Ser	Ser	Asn	Ile	Glu	Gln	Gln	Asn	Ser	Thr	Arg	Ile
	355						360					365			
Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg
	370					375						380			

Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro
385					390					395					400

<210> 79  
 <211> 398  
 <212> PRT  
 <213> Homo sapiens

<400> 79															
Met	Asp	Ser	Ser	Thr	Gly	Pro	Gly	Asn	Thr	Ser	Asp	Cys	Ser	Asp	Pro
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Leu	Ala	Gln	Ala	Ser	Cys	Ser	Pro	Ala	Pro	Gly	Ser	Trp	Leu	Asn	Leu
			20					25					30		
Ser	His	Val	Asp	Gly	Asn	Gln	Ser	Asp	Pro	Cys	Gly	Leu	Asn	Arg	Thr
		35					40					45			
Gly	Leu	Gly	Gly	Asn	Asp	Ser	Leu	Cys	Pro	Gln	Thr	Gly	Ser	Pro	Ser
	50					55					60				
Met	Val	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val	Cys	Val
65					70					75					80
Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val	Arg	Tyr
				85					90					95	
Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu	Ala	Leu
			100					105					110		
Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val	Asn	Tyr
		115					120					125			
Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile	Val	Ile
	130					135					140				
Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	Cys	Thr
145					150					155					160
Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	Ala	Leu
			165						170					175	
Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Val	Asn	Val	Cys	Asn	Trp
			180					185					190		
Ile	Leu	Ser	Ser	Ala	Ile	Gly	Ile	Pro	Val	Met	Phe	Met	Ala	Thr	Thr
		195					200					205			
Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser	His	Pro
	210					215					220				
Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	Phe	Ala
225				230						235					240
Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	Met	Ile
			245						250					255	
Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu	Lys	Asp
			260					265					270		
Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	Ala	Val
		275					280						285		
Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile	Lys	Ala
	290					295					300				
Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp	His	Phe
305					310					315					320
Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val	Leu	Tyr
			325						330					335	
Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe	Cys	Ile
			340					345					350		
Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Asn	Ser	Thr	Arg	Val	Arg	Gln	
		355				360					365				
Asn	Thr	Arg	Glu	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg	Thr	Asn
	370					375					380				
His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro		

385

390

395

&lt;210&gt; 80

&lt;211&gt; 372

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 80

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Met Glu Pro Ala Pro Ser Ala Gly Ala Glu Leu Gln Pro Pro Leu Phe
 1      5      10      15
Ala Asn Ala Ser Asp Ala Tyr Pro Ser Ala Cys Pro Ser Ala Gly Ala
 20      25      30
Asn Ala Ser Gly Pro Pro Gly Ala Arg Ser Ala Ser Ser Leu Ala Leu
 35      40      45
Ala Ile Ala Ile Thr Ala Leu Tyr Ser Ala Val Cys Ala Val Gly Leu
 50      55      60
Leu Gly Asn Val Leu Val Met Phe Gly Ile Val Arg Tyr Thr Lys Met
 65      70      75      80
Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala
 85      90      95
Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Ala Lys Tyr Leu Met Glu
 100     105     110
Thr Trp Pro Phe Gly Glu Leu Leu Cys Lys Ala Val Ile Ser Ile Asp
 115     120     125
Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Thr Met Met Ser Val
 130     135     140
Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu Asp Phe Arg
 145     150     155     160
Thr Pro Ala Lys Ala Lys Ile Ile Asn Ile Cys Ile Trp Val Leu Ala
 165     170     175
Ser Gly Val Gly Val Pro Ile Met Val Met Ala Val Thr Arg Pro Arg
 180     185     190
Asp Gly Ala Val Val Cys Met Leu Gln Phe Pro Ser Pro Ser Trp Tyr
 195     200     205
Trp Asp Thr Val Thr Lys Ile Cys Val Phe Leu Phe Ala Phe Val Val
 210     215     220
Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Leu Leu Arg Leu
 225     230     235     240
Arg Ser Val Arg Leu Leu Ser Gly Ser Lys Glu Lys Asp Arg Ser Leu
 245     250     255
Arg Arg Ile Thr Arg Met Val Leu Val Val Val Gly Ala Phe Val Val
 260     265     270
Cys Trp Ala Pro Ile His Ile Phe Val Ile Val Trp Thr Leu Val Asp
 275     280     285
Ile Asp Arg Arg Asp Pro Leu Val Val Ala Ala Leu His Leu Cys Ile
 290     295     300
Ala Leu Gly Tyr Ala Asn Ser Ser Leu Asn Pro Val Leu Tyr Ala Phe
 305     310     315     320
Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Gln Leu Cys Arg Lys Pro
 325     330     335
Cys Gly Arg Pro Asp Pro Ser Ser Phe Ser Arg Ala Arg Glu Ala Thr
 340     345     350
Ala Arg Glu Arg Val Thr Ala Cys Thr Pro Ser Asp Gly Pro Gly Gly
 355     360     365
Gly Ala Ala Ala
 370

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<210> 81  
 <211> 359  
 <212> PRT  
 <213> Homo sapiens

<400> 81  
 Met Ala Leu Asn Ser Ser Ala Glu Asp Gly Ile Lys Arg Ile Gln Asp  
 1 5 10 15  
 Asp Cys Pro Lys Ala Gly Arg His Ser Tyr Ile Phe Val Met Ile Pro  
 20 25 30  
 Thr Leu Tyr Ser Ile Ile Phe Val Val Gly Ile Phe Gly Asn Ser Leu  
 35 40 45  
 Val Val Ile Val Ile Tyr Phe Tyr Met Lys Leu Lys Thr Val Ala Ser  
 50 55 60  
 Val Phe Leu Leu Asn Leu Ala Leu Ala Asp Leu Cys Phe Leu Leu Thr  
 65 70 75 80  
 Leu Pro Leu Trp Ala Val Tyr Thr Ala Met Glu Tyr Arg Trp Pro Phe  
 85 90 95  
 Gly Asn His Leu Cys Lys Ile Ala Ser Ala Ser Val Thr Glu Asn Leu  
 100 105 110  
 Tyr Ala Ser Val Phe Leu Leu Thr Cys Leu Ser Ile Asp Arg Tyr Leu  
 115 120 125  
 Ala Ile Val His Pro Met Lys Ser Arg Leu Arg Arg Thr Met Leu Val  
 130 135 140  
 Ala Lys Val Thr Cys Ile Ile Ile Trp Leu Met Ala Gly Leu Ala Ser  
 145 150 155 160  
 Leu Pro Ala Val Ile His Arg Asn Val Tyr Phe Ile Glu Asn Thr Asn  
 165 170 175  
 Ile Thr Val Cys Ala Phe His Tyr Glu Ser Arg Asn Ser Thr Leu Pro  
 180 185 190  
 Ile Gly Leu Gly Leu Thr Lys Asn Ile Leu Gly Phe Leu Phe Pro Phe  
 195 200 205  
 Leu Ile Ile Ile Thr Ser Tyr Thr Leu Ile Trp Lys Ala Leu Lys Lys  
 210 215 220  
 Ala Tyr Glu Ile Gln Lys Asn Lys Pro Arg Asn Asp Asp Ile Phe Arg  
 225 230 235 240  
 Ile Ile Met Ala Ile Val Leu Phe Phe Phe Ser Trp Val Pro His  
 245 250 255  
 Gln Ile Phe Thr Phe Leu Asp Val Leu Ile Gln Leu Gly Val Ile His  
 260 265 270  
 Asp Cys Lys Ile Ser Asp Ile Val Asp Thr Ala Met Pro Ile Thr Ile  
 275 280 285  
 Cys Ile Ala Tyr Phe Asn Asn Cys Leu Asn Pro Leu Phe Tyr Gly Phe  
 290 295 300  
 Leu Gly Lys Lys Phe Lys Lys Tyr Phe Leu Gln Leu Leu Lys Tyr Ile  
 305 310 315 320  
 Pro Pro Lys Ala Lys Ser His Ser Ser Leu Ser Thr Lys Met Ser Thr  
 325 330 335  
 Leu Ser Tyr Arg Pro Ser Asp Asn Met Ser Ser Ser Ala Lys Lys Pro  
 340 345 350  
 Ala Ser Cys Phe Glu Val Glu  
 355

<210> 82  
 <211> 391  
 <212> PRT  
 <213> Homo sapiens

<400> 82

Met	Phe	Ser	Pro	Trp	Lys	Ile	Ser	Met	Phe	Leu	Ser	Val	Arg	Glu	Asp
1				5					10					15	
Ser	Val	Pro	Thr	Thr	Ala	Ser	Phe	Ser	Ala	Asp	Met	Leu	Asn	Val	Thr
			20					25					30		
Leu	Gln	Gly	Pro	Thr	Leu	Asn	Gly	Thr	Phe	Ala	Gln	Ser	Lys	Cys	Pro
		35					40					45			
Gln	Val	Glu	Trp	Leu	Gly	Trp	Leu	Asn	Thr	Ile	Gln	Pro	Pro	Phe	Leu
	50				55						60				
Trp	Val	Ile	Phe	Val	Leu	Ala	Thr	Leu	Glu	Asn	Ile	Phe	Val	Leu	Ser
65					70					75					80
Val	Phe	Cys	Leu	His	Lys	Ser	Ser	Cys	Thr	Val	Ala	Glu	Ile	Tyr	Leu
				85					90					95	
Gly	Asn	Leu	Ala	Ala	Ala	Asp	Leu	Ile	Leu	Ala	Cys	Gly	Leu	Pro	Phe
			100					105					110		
Trp	Ala	Ile	Thr	Ile	Ser	Asn	Asn	Phe	Asp	Trp	Leu	Phe	Gly	Glu	Thr
			115				120						125		
Leu	Cys	Arg	Val	Val	Asn	Ala	Ile	Ile	Ser	Met	Asn	Leu	Tyr	Ser	Ser
	130					135					140				
Ile	Cys	Phe	Leu	Met	Leu	Val	Ser	Ile	Asp	Arg	Tyr	Leu	Ala	Leu	Val
145					150					155					160
Lys	Thr	Met	Ser	Met	Gly	Arg	Met	Arg	Gly	Val	Arg	Trp	Ala	Lys	Leu
				165					170					175	
Tyr	Ser	Leu	Val	Ile	Trp	Gly	Cys	Thr	Leu	Leu	Leu	Ser	Ser	Pro	Met
			180					185					190		
Leu	Val	Phe	Arg	Thr	Met	Lys	Glu	Tyr	Ser	Asp	Glu	Gly	His	Asn	Val
		195					200					205			
Thr	Ala	Cys	Val	Ile	Ser	Tyr	Pro	Ser	Leu	Ile	Trp	Glu	Val	Phe	Thr
		210				215					220				
Asn	Met	Leu	Leu	Asn	Val	Val	Gly	Phe	Leu	Leu	Pro	Leu	Ser	Val	Ile
225				230						235					240
Thr	Phe	Cys	Thr	Met	Gln	Ile	Met	Gln	Val	Leu	Arg	Asn	Asn	Glu	Met
				245					250					255	
Gln	Lys	Phe	Lys	Glu	Ile	Gln	Thr	Glu	Arg	Arg	Ala	Thr	Val	Leu	Val
			260					265					270		
Leu	Val	Val	Leu	Leu	Leu	Phe	Ile	Ile	Cys	Trp	Leu	Pro	Phe	Gln	Ile
		275					280					285			
Ser	Thr	Phe	Leu	Asp	Thr	Leu	His	Arg	Leu	Gly	Ile	Leu	Ser	Ser	Cys
						295					300				
Gln	Asp	Glu	Arg	Ile	Ile	Asp	Val	Ile	Thr	Gln	Ile	Ala	Ser	Phe	Met
305					310					315					320
Ala	Tyr	Ser	Asn	Ser	Cys	Leu	Asn	Pro	Leu	Val	Tyr	Val	Ile	Val	Gly
				325					330					335	
Lys	Arg	Phe	Arg	Lys	Lys	Ser	Trp	Glu	Val	Tyr	Gln	Gly	Val	Cys	Gln
			340					345					350		
Lys	Gly	Gly	Cys	Arg	Ser	Glu	Pro	Ile	Gln	Met	Glu	Asn	Ser	Met	Gly
		355				360						365			
Thr	Leu	Arg	Thr	Ser	Ile	Ser	Val	Glu	Arg	Gln	Ile	His	Lys	Leu	Gln
		370				375						380			
Asp	Trp	Ala	Gly	Ser	Arg	Gln									
385						390									

<210> 83

<211> 398

<212> PRT

<213> Homo sapiens

<400> 83

Met	Asp	Ser	Ser	Ala	Gly	Pro	Gly	Asn	Ile	Ser	Asp	Cys	Ser	Asp	Pro
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Leu	Ala	Pro	Ala	Ser	Cys	Ser	Pro	Ala	Pro	Gly	Ser	Trp	Leu	Asn	Leu
			20					25					30		
Ser	His	Val	Asp	Gly	Asn	Gln	Ser	Asp	Pro	Cys	Gly	Pro	Asn	Arg	Thr
		35					40					45			
Gly	Leu	Gly	Gly	Ser	His	Ser	Leu	Cys	Pro	Gln	Thr	Gly	Ser	Pro	Ser
	50					55					60				
Met	Val	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val	Cys	Val
65					70					75					80
Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val	Arg	Tyr
				85					90					95	
Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu	Ala	Leu
			100					105					110		
Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val	Asn	Tyr
		115					120					125			
Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Asn	Ile	Leu	Cys	Lys	Ile	Val	Ile
	130					135					140				
Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	Cys	Thr
145					150					155					160
Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	Ala	Leu
				165					170					175	
Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Val	Asn	Val	Cys	Asn	Trp
			180					185					190		
Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met	Phe	Met	Ala	Thr	Thr
		195				200						205			
Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser	His	Pro
	210					215					220				
Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	Phe	Ala
225					230					235					240
Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	Met	Ile
				245					250					255	
Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu	Lys	Asp
			260					265					270		
Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	Ala	Val
		275					280					285			
Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile	Lys	Ala
	290					295					300				
Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp	His	Phe
305					310					315					320
Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val	Leu	Tyr
				325					330					335	
Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe	Cys	Ile
			340					345					350		
Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Asn	Ser	Ala	Arg	Ile	Arg	Gln	
		355					360					365			
Asn	Thr	Arg	Glu	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg	Thr	Asn
	370					375					380				
His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro		
385					390					395					

<210> 84  
 <211> 405  
 <212> PRT  
 <213> Homo sapiens

<400> 84  
 Met Asp Ser Gly Ala Val Pro Thr Asn Ala Ser Asn Cys Ile Asp Pro

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Phe	Thr	His	Pro	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Ser	Ser	Trp	
			20					25					30			
Val	Asn	Phe	Ser	His	Leu	Glu	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro	
		35					40					45				
Asn	Arg	Thr	Glu	Leu	Gly	Gly	Ser	Asp	Arg	Leu	Cys	Pro	Ser	Ala	Gly	
	50				55					60						
Ser	Pro	Ser	Met	Ile	Thr	Ala	Met	Val	Thr	Ala	Ile	Ile	Ile	Met	Ala	
65				70					75					80		
Leu	Tyr	Ser	Ile	Val	Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	
			85					90					95			
Met	Tyr	Val	Ile	Val	Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	
		100						105					110			
Tyr	Ile	Phe	Asn	Leu	Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	
		115					120					125				
Pro	Phe	Gln	Ser	Val	Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	
	130				135						140					
Ile	Leu	Cys	Lys	Ile	Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	
145				150					155					160		
Ser	Ile	Phe	Thr	Leu	Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	
			165						170					175		
Cys	His	Pro	Val	Lys	Ala	Leu	Asp	Leu	Arg	Thr	Pro	Arg	Asn	Ala	Lys	
		180					185						190			
Ile	Ile	Asn	Ile	Cys	Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	
	195					200						205				
Val	Met	Phe	Met	Ala	Thr	Thr	Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	
	210					215					220					
Thr	Leu	Thr	Phe	Ser	His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	
225				230					235					240		
Ile	Cys	Val	Phe	Ile	Phe	Ala	Phe	Ile	Met	Pro	Ile	Leu	Ile	Ile	Thr	
			245					250					255			
Val	Cys	Tyr	Gly	Leu	Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	
		260					265					270				
Ser	Gly	Ser	Lys	Glu	Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	
	275					280						285				
Val	Leu	Val	Val	Val	Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	
	290					295					300					
Ile	Tyr	Val	Ile	Ile	Lys	Ala	Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	
305				310					315						320	
Gln	Thr	Val	Ser	Trp	His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	
			325					330						335		
Cys	Leu	Asn	Pro	Val	Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	
		340					345					350				
Cys	Phe	Arg	Glu	Phe	Cys	Ile	Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Gln	
	355					360					365					
Asn	Ser	Thr	Arg	Ile	Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	
	370				375					380						
Asn	Thr	Val	Asp	Arg	Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	
385				390					395					400		
Thr	Thr	Pro	Leu	Pro												
				405												

<210> 85

<211> 400

<212> PRT

<213> Homo sapiens

<400> 85

Met	Asp	Ser	Ser	Ala	Ala	Pro	Thr	Asn	Ala	Ser	Asn	Cys	Thr	Asp	Ala	1	5	10	15
Leu	Ala	Tyr	Ser	Ser	Cys	Ser	Pro	Ala	Pro	Ser	Pro	Gly	Ser	Trp	Val	20	25	30	
Asn	Leu	Ser	His	Leu	Asp	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Gly	Pro	Asn	35	40	45	
Arg	Thr	Asp	Leu	Gly	Gly	Arg	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly	Ser	50	55	60	
Pro	Ser	Met	Ile	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile	Val	65	70	75	80
Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile	Val	85	90	95	
Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn	Leu	100	105	110	
Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser	Val	115	120	125	
Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys	Ile	130	135	140	
Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr	Leu	145	150	155	160
Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val	Lys	165	170	175	
Ala	Leu	Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Ile	Asn	Val	Cys	180	185	190	
Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met	Phe	Met	Ala	195	200	205	
Thr	Thr	Lys	Tyr	Arg	Gln	Gly	Ser	Ile	Asp	Cys	Thr	Leu	Thr	Phe	Ser	210	215	220	
His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe	Ile	225	230	235	240
Phe	Ala	Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly	Leu	245	250	255	
Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys	Glu	260	265	270	
Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val	Val	275	280	285	
Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile	Ile	290	295	300	
Lys	Ala	Leu	Val	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser	Trp	305	310	315	320
His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro	Val	325	330	335	
Leu	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe	340	345	350	
Cys	Ile	Pro	Thr	Ser	Ser	Asn	Ile	Glu	Gln	Gln	Asn	Ser	Thr	Arg	Ile	355	360	365	
Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg	370	375	380	
Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro	385	390	395	400

<210> 86

<211> 400

<212> PRT

<213> Homo sapiens

<400> 86

Met Asp Ser Ser Ala Asp Pro Arg Asn Ala Ser Asn Cys Thr Asp Pro



1				5					10					15	
Phe	Ser	Pro	Ser	Ser	Met	Cys	Ser	Pro	Val	Pro	Ser	Pro	Ser	Ser	Trp
			20					25					30		
Val	Asn	Phe	Ser	His	Leu	Glu	Gly	Asn	Leu	Ser	Asp	Pro	Cys	Ile	Arg
		35					40					45			
Asn	Arg	Thr	Glu	Leu	Gly	Gly	Ser	Asp	Ser	Leu	Cys	Pro	Pro	Thr	Gly
	50				55					60					
Ser	Pro	Ser	Met	Val	Thr	Ala	Ile	Thr	Ile	Met	Ala	Leu	Tyr	Ser	Ile
65				70					75					80	
Val	Cys	Val	Val	Gly	Leu	Phe	Gly	Asn	Phe	Leu	Val	Met	Tyr	Val	Ile
			85					90					95		
Val	Arg	Tyr	Thr	Lys	Met	Lys	Thr	Ala	Thr	Asn	Ile	Tyr	Ile	Phe	Asn
			100					105					110		
Leu	Ala	Leu	Ala	Asp	Ala	Leu	Ala	Thr	Ser	Thr	Leu	Pro	Phe	Gln	Ser
		115					120					125			
Val	Asn	Tyr	Leu	Met	Gly	Thr	Trp	Pro	Phe	Gly	Thr	Ile	Leu	Cys	Lys
	130				135						140				
Ile	Val	Ile	Ser	Ile	Asp	Tyr	Tyr	Asn	Met	Phe	Thr	Ser	Ile	Phe	Thr
145				150					155					160	
Leu	Cys	Thr	Met	Ser	Val	Asp	Arg	Tyr	Ile	Ala	Val	Cys	His	Pro	Val
			165					170					175		
Lys	Ala	Leu	Asp	Phe	Arg	Thr	Pro	Arg	Asn	Ala	Lys	Ile	Ile	Asn	Val
		180						185					190		
Cys	Asn	Trp	Ile	Leu	Ser	Ser	Ala	Ile	Gly	Leu	Pro	Val	Met	Phe	Met
	195						200					205			
Ala	Thr	Thr	Lys	Tyr	Arg	Asn	Gly	Ser	Ile	Asp	Cys	Ala	Leu	Thr	Phe
	210					215				220					
Ser	His	Pro	Thr	Trp	Tyr	Trp	Glu	Asn	Leu	Leu	Lys	Ile	Cys	Val	Phe
225				230					235					240	
Ile	Phe	Ala	Phe	Ile	Met	Pro	Val	Leu	Ile	Ile	Thr	Val	Cys	Tyr	Gly
			245					250					255		
Leu	Met	Ile	Leu	Arg	Leu	Lys	Ser	Val	Arg	Met	Leu	Ser	Gly	Ser	Lys
	260							265					270		
Glu	Lys	Asp	Arg	Asn	Leu	Arg	Arg	Ile	Thr	Arg	Met	Val	Leu	Val	Val
	275						280					285			
Val	Ala	Val	Phe	Ile	Val	Cys	Trp	Thr	Pro	Ile	His	Ile	Tyr	Val	Ile
	290				295						300				
Ile	Lys	Ala	Leu	Ile	Thr	Ile	Pro	Glu	Thr	Thr	Phe	Gln	Thr	Val	Ser
305				310					315					320	
Trp	His	Phe	Cys	Ile	Ala	Leu	Gly	Tyr	Thr	Asn	Ser	Cys	Leu	Asn	Pro
			325					330					335		
Val	Tyr	Ala	Phe	Leu	Asp	Glu	Asn	Phe	Lys	Arg	Cys	Phe	Arg	Glu	Phe
		340						345					350		
Cys	Ile	Pro	Thr	Ser	Ser	Thr	Ile	Glu	Gln	Gln	Asn	Ser	Ala	Arg	Ile
	355					360						365			
Arg	Gln	Asn	Thr	Arg	Asp	His	Pro	Ser	Thr	Ala	Asn	Thr	Val	Asp	Arg
	370				375						380				
Thr	Asn	His	Gln	Leu	Glu	Asn	Leu	Glu	Ala	Glu	Thr	Ala	Pro	Leu	Pro
385				390				395						400	

<210> 87  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 87  
 Met Glu Thr Ser Gly Asn Ile Ser Asp Phe Leu Tyr Pro Leu Ser Asn  
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